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QUARTERLY REPORT

CLIMATE CHANGE RESILIENT DEVELOPMENT

QUARTERLY IMPLEMENTATION REPORT

APRIL 2014 – JUNE 2014

August 17, 2014

This report was produced for review by the United States Agency for International Development (USAID). It was prepared by Engility Corporation/IRG.

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ACRONYMS

ADN	Santo Domingo National District (Ayuntamiento del Distrito Nacional)
AgMIP	Agricultural Model Intercomparison and Improvement Project
AGU	American Geophysical Union
ALM	Adaptation Learning Mechanism (website)
AP	Adaptation Partnership
BZC	Buffer Zone Council
CAASD	Corporación del Acueducto y Alcantarillado de Santo Domingo
CATIE	Centro Agronómico Tropical de Investigación y Enseñanza
CCAFS	CGIAR Research Program on Climate Change, Agriculture and Food Security
CCAP	Coastal Cities Adaptation Project
CCRD	Climate Change Resilient Development Task Order
CCSR	Columbia's Center for Climate Systems Research
CDWG	Communications Dissemination Working Group
CEFEDH	Centers for Family Development of Honduras
CENEPRED	Peru's National Center for the Assessment, Prevention and Reduction of Risk of Disasters
CFGORRP	Community Based Flood and Glacial Lake Outburst Risk Reduction Project
CGIAR	Consultative Group on International Agricultural Research
CIMH	Caribbean Institute of Meteorology and Hydrology
CIMPACT-DST™	Climate Impacts Decision Support Tool
CoP	Community of Practice
COP	UNFCCC Conference of the Parties
CPT	Climate Predictability Tool
CRD	Climate Resilient Development
CRIS	Climate Resilient Infrastructure Services Program
CRLEDS	Climate Resilient and Low Emission Development Strategies
CRM	Climate Risk Management
CRW	Climate Resilient Wheat
CSP	Climate Services Partnership
DBMS	Database Management System

DDC	District Development Committee
DEM	Digital elevation model
DFID	Department for International Development (United Kingdom)
DHM	Department of Hydrology and Meteorology (Nepal)
DL	Data Library
DNPWC	Department of National Parks and Wildlife Conservation (Nepal)
ECOWAS	Economic Community of West African States
Engility-IRG	International Resources Group/Engility
EWS	Early Warning System
FCMC	Forest Carbon, Markets, and Communities Task Order
FES	Foundation for Ecological Security
FFS	Farmer Field Schools
FONIPREL	Public Fund for Local and Regional Investments (Peru)
FTI	Fast-Track Implementation
FY	Fiscal Year
GCC	Global Climate Change
GCMs	Global climate models
GEF	Global Environment Facility
GFCS	Global Framework for Climate Services
GIS	Geographical Information System
GLOF	Glacial Lake Outburst Flood
GON	Government of Nepal
GPR	Ground penetrating radar studies
GTPA	Groupe de Travail Pluridisciplinaire d'Assistance Agrométéorologique
GUC	Grants Under Contract
HiMAP	High Mountain Adaptation Partnership
HPI	Hue Planning Institute
ICC	Institute for Climate Change research (Guatemala)
ICCS2	(Second) International Conference on Climate Services
ICF	ICF Incorporated, LLC
ICIMOD	International Centre for Integrated Mountain Development
ICT	Information and Communication Technology
IDB	Inter-American Development Bank
IDDI	Instituto Dominicano de Desarrollo Integral
IEC	Information, Education, and Communication

IISD	International Institute for Sustainable Development
IMHEN	Institute for Meteorology, Hydrology, and Environment (Vietnam)
INGC	National Institute of Disaster Management (Mozambique)
INSIVUMEH	The National Institute for Seismology, Vulcanology, Meteorology and Hydrology of Guatemala
INTEC	Instituto Tecnológico de Santo Domingo
IPCC	Intergovernmental Panel on Climate Change
IPO	International Public Organization
IQC	Indefinite Quantities Contract
IRAP	International Research Institute for Climate and Society
IRD	Research Institute for Development (Peru)
IRI	International Research Institute for Climate and Society
IT	Information technology
KACC	Khumbu Alpine Conservation Council
KM	Knowledge management
LAPA	Local Adaptation Plan for Action
M&E	Monitoring and evaluation
MINAM	Ministry of Environment of Peru
MOU	Memorandum of Understanding
MPA	Marine Protected Area
NAP	National Adaptation Plan
NCAR	National Center for Atmospheric Research
NGO	Non-governmental organization
NOAA	National Oceanic and Atmospheric Administration
NTNC	National Trust for Nature Conservation
ONAMET	National Office on Meteorology
PEAR	Post Event Assessment of Resilience
phpBB	PHP Bulletin Board
PMP	Performance Management Plan
POC	point of contact
PROINVERSION	Peru Agency for the Promotion of Private Investment
pSIMS	parallel System for Integrating Impacts Models and Sectors
Q2	Quarter Two
QA/QC	Quality Assurance/Quality Control
RADA	Jamaican Rural Agricultural Development Agency

SAC	Senior Advisory Committee
SLR	Sea level rise
SMNH	Servicio Meteorológico Nacional de Honduras
SNP	Sagarmatha National Park
SOW	Scope of work
SUNY	State University of New York
TA	Technical assistance
TDY	Temporary Duty
TERI	The Energy and Resources Institute
TMA	Tanzania Meteorology Agency
TMI	The Mountain Institute
TOT	Training-of-Trainers
UA	University of Arizona
UCAR	University Corporation for Atmospheric Research
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UPCH	Universidad Peruana Cayetano Heredia
USAID	United States Agency for International Development
USG	U.S. Government
UT	University of Texas at Austin
V&A	Vulnerability and Adaptation
VDC	Village Development Committee
VIUP	Vietnam Institute for Urban-Rural Planning
Water II IQC	Integrated Water and Coastal Resources Management Indefinite Quantities Contract
WG	Working Group
WIO	Western Indian Ocean
WIOMSA	Western Indian Ocean Marine Science Association
WMO	World Meteorological Organization
YKK	Yayasan Kota Kita
YMCI	Yayasan Mercy Corps Indonesia

A. INTRODUCTION

This report summarizes the activities undertaken by the consortium led by International Resources Group (Engility-IRG) during the quarterly reporting period of April 2014 – June 2014, under the Integrated Water and Coastal Resources Management Indefinite Quantities Contract (Water II IQC) Climate Change Resilient Development (CCRD) Task Order. The report covers project management and implementation activities undertaken and/or completed during the reporting period. The CCRD annual Performance Management Plan (PMP) report, current CCRD organizational chart, and annual financial report are provided as Annexes. The remaining sections are divided into four sections: 1) Project Management; 2) Objective One activities; 3) Objective Two activities; and 4) Objective Three activities.

The report includes updates on activities and tasks described in the CCRD Year Three Work Plan:

Project Management, Planning, and Evaluation:

Task PM-1 Develop Year Two Work Plan

Task PM-4 Conduct Advisory Committee Meetings

Task PM-6 Develop and Disseminate CCRD Knowledge Management (KM) Products

Task PM-7 Implement Grants Under Contract Program

Objective 1: Support for USAID Missions and Bureaus

Task 1.1.1 Revise Vulnerability and Adaptation Manual

Task 1.1.2 Develop Climate Briefs and Annexes

Task 1.1.5 New Directions in Pilots and Research

Task 1.2.3 Support the United Nations Development Programme (UNDP) Adaptation Learning Mechanism Website

Task 1.3.3 Support Development of USAID's Federal Agency Climate Change Adaptation Plan

Task 1.3.4 Provide support for USAID Integration Pilot in Kazakhstan

Objective 2: Coordinate with Other U.S. Government (USG) Agencies to Support Mainstreaming

Task 2.1.1 Conduct Adaptation Partnership Workshops

Objective 3: Identify and Respond to Emerging Issues and Fill Gaps

Task 3.1.1 Support Preparation of National Adaptation Plans (NAPs)

Task 3.1.2 Develop and Pilot Fast Track Implementation Concept

Task 3.2.2 Develop the High Mountain Adaptation Partnership's (HiMAP) CoP

Task 3.2.4 Implement CoP Pilot Projects and Research

Task 3.3.2 Coordinate Activities of the Climate Services Partnership

Task 3.3.3 Compile and Disseminate Current Climate Services Knowledge

Task 3.3.4 Conduct Case Studies and Assessments of Climate Services

Task 3.3.5 Economic Valuation of Climate Services

Task 3.3.7 National/Regional-level Climate Services Development

Task 3.3.8 Develop Climate Services Products for the Agriculture Sector

Task 3.3.10 International Research Institute for Climate and Society (IRAP)

Task 3.4.2 CRIS Support to Pilot Cities to Accelerate Climate Risk Management

Task 3.4.4 Global City-to-City Information Exchange

Task 3.4.6 Evaluate CTIS Activities and Recommend Next Steps

Task 3.4.7 Cascadia Vietnam Pilot

This report and all reports and presentations drafted and/or finalized during Fiscal Year (FY) 2014-Quarter 3 (Q3) are provided to USAID through the internal site: www.ccrdproject.com. In addition, performance indicators and achievements for the reporting period are provided in Annex I, an organizational chart is provided in Annex II, and a small grants summary table is provided in Annex III.

B. PROJECT MANAGEMENT, PLANNING, AND EVALUATION

Project management activities during FY 2014-Q2 focused on developing CCRD communications materials and issuing and monitoring small grants awards.

TASK PM-1 DEVELOP YEAR THREE WORK PLAN

The Year Three Work Plan covers the period of August 2013 – July 2014 and is currently being implemented.

TASK PM-4 CONDUCT ADVISORY COMMITTEE MEETINGS

The Senior Advisory Committee (SAC) met May 8 and 9 at Engility to discuss priorities for the Year Four Work Plan. The meeting kicked off with a review of Year Three progress on major CCRD programs and anticipated deliverables to be completed by the program year. A short update on communications progress was also provided to the SAC and USAID.

By the afternoon of day one discussion had shifted to Year Four Work Plan priorities. On the second day, the SAC focused on how we plan to roll out synthetic products and lessons learned for a variety of audiences and media.

TASK PM-6 DEVELOP AND DISSEMINATE CCRD KNOWLEDGE MANAGEMENT PRODUCTS

The CCRD communications manager Michael E. Cote, with assistance from new CCRD Intern Paola Eisner, Engility Corporation; CCRD Communications Consultant, Jamie Carson, C.C. Global; and with input from the CCRD communications team, began pre-rollout activities for the CCRD Year 4 Communications Framework. The Communications Framework, an annex to the CCRD Year 4 Work Plan, began development during the April 2014 CCRD Strategic Advisory Committee Meeting. Primary communications activities during third quarter included editing, formatting, and finalizing deliverables; creating a distribution plan for the mainstreaming guidances; planning for the CCRD Roadmap with Stratus Consulting; setting a preliminary agenda and completing due diligence for Climate Week (planned for Spring 2015).

The CCRD Library (www.ccrdproject.com/ccrd-library) continues to be populated with finalized CCRD deliverables. The communications team holds its biweekly communications meeting Tuesdays at 10 a.m. EST with Mr. Cote leading the meetings and individual team members providing updates on assignments. The communications team's focus on tactical dissemination of technical reports and other deliverables has been a primary activity during third quarter. The distribution strategy will be utilized for high-level reports and is first being deployed (with input from USAID; Engility; Ed Carr, University of South Carolina) with an assessment finalized this quarter — *Assessing Mali's "Direction Nationale de la Météorologie" Agrometeorological Advisory Program.*

For the National Adaptation Working Group, Mr. Cote, Ms. Carson, and Ms. Eisner, prepared a package of materials for John Furlow (USAID) to promote the National Adaptation Plans (NAPs) process with a compendium report and supporting documents. Mr. Furlow brought the materials to Bonn, Germany, for the UNFCCC NAP Expo on August 8 and 9.

The following table describes the current status of higher-level CCRD deliverables. Several have been reformatted into the CCRD "tab" template for consistency and branding purposes. Mr. Cote and Ms. Carson performed light edits in collaboration with respective technical leads as needed. The documents were uploaded to the CCRD library (www.CCRDProject.com/ccrd-library/technical-reports). Several of the documents were distributed across a variety of climate and stakeholder networks (see table below).

Type	Title	Q3 Status
Technical Report	***Assessing Mali's Direction Nationale de la Meteorologie Agrometeorological Advisory Program***	Technical report distributed electronically and print by Engility. Report uploaded to USAID DEC. Currently with USAID Mission in Mali before wider distribution. See above.
Technical Report	***National Adaptation Plans (NAPs) Compendium***	Print versions distributed. Distribution package delivered to USAID for use in at Bonn NAP Expo (John Furlow), see above.
Technical Report	***Scope of Use-Vietnam Climate Impacts Decision Support Tool (CIMPACT-DST)***	Formatted by Engility. Posted to CCRD Library, and awaiting completion of CIMPACT-DST package for wider distribution.
Technical Report	***Needs Assessment-Vietnam Climate Impacts Decision Support Tool (CIMPACT-DST)***	Formatted by Engility. Posted to CCRD Library, and awaiting completion of CIMPACT-DST package for wider distribution.
Technical Report	***Project Description-Vietnam Climate Impacts Decision Support Tool (CIMPACT-DST)***	Formatted by Engility. Posted to CCRD Library, and awaiting completion of CIMPACT-DST package for wider distribution.
Technical Report	***Use Scenarios and User Narratives-Vietnam Climate Impacts Decision Support Tool (CIMPACT-DST)***	Engility formatting the report and two annexes. Will post to CCRD Library and begin further distribution upon completion of this report.
Technical Report	***Climate Resilient Infrastructure Services (CRIS) Resource Guide***	Formatted, printed, and distributed at Climate Leadership Academy workshop. Jamie Carson completed packaged round of final edits to English/Spanish InDesign documents from ICFI and its partners on the CRIS workshop.
Technical	***Climate Resilient Infrastructure Services (CRIS)***	Formatted and posted to CCRD Library.

Report	***Peer Learning Guide***	
Factsheets	***NAPs factsheet***	Widely distributed in print and online (ongoing) and posted to CCRD Library.
Annual Reports	***CCRD FY13 Technical (non-financial) Annual Reports and quarterly reports***	Reformatted and new cover images. Uploaded to CCRD Library but not distributed.

TASK PM-7 IMPLEMENT GRANTS UNDER CONTRACT PROGRAM

Climber-Scientist Small Grants

Adam French (University of California, Santa Cruz): During the third quarter of 2014, Dr. French worked with Peruvian partners to coordinate a field excursion for members of the Cruz de Mayo Campesino Community (CDM) to discuss the effects of mining and climate change on watershed health and community development. Dr. French and project partner César Portocarrero (agua.edu) visited the Huancutey sector of CDM with to discuss water availability and hydrologic change and to speak with local irrigators about their efforts to improve irrigation infrastructure and efficiency. Dr. French also leveraged community buy-in to arrange the donation of a laptop computer and multi-media projector to CDM. In the next quarter, Dr. French will coordinate the development of a database of climate change education, adaptation, and resource governance materials for CDM.

ATREE USA: The ATREE team conducted trainings on improved cook stove construction and maintenance and established the Eastern Himalayan Climate Forum to increase collaboration between ATREE and other local NGOs. ATREE also completed shooting and preliminary edits on their documentary video about agriculture in Eastern Himalaya, *Climate Change in the Eastern Himalaya: Ancient Risks, Future Threats.* ATREE staff presented their work at the Forest Research Institute of India, the CHED-IRC conference "Science, History and Religion", and at the International Society for Ecological Economics 2014 conference "Wellbeing and equity within planetary boundaries".

The Research Foundation for the State University of New York (SUNY): SUNY is completing the modeling synthesis of western Mongolia rangeland conditions, and analysis and communication dissemination is expected by July 15, 2014. Remote sensing reconnaissance is being supplemented by ongoing assessments of western Mongolian grazing system and herder population vulnerability to climate change. SUNY continues research on deliverables that include a historical analysis of grassland conditions over the last 12 years, projections of likely future conditions of rangeland quality and wildlife distribution based on climate sensitive models, communication avenues tailored to a traditional herder audience, and a guidance document on regional ecotourism development.

Three new tools have been finalized in this quarter, including an approach to integrating remote sensing data with stakeholder assessments and wildlife survey data to project biodiversity and human migration in rangeland situations, a tool to detect trends in remote-sensed rangeland conditions with highly seasonal patterns of variability, a system for integrating traditional ecological knowledge with rangeland assessments based on western science methods, and a field-based method for detailed validation of satellite-derived estimates of ground-level estimates of rangeland quality

SUNY is also developing a proposal to NASA to facilitate climate change adaptation in greater Altai Mountain region.

Academic Small Grants Program

RMIT University: The RMIT team hosted workshops in conjunction with Fiji Ports and PNG Ports and held meetings with the Fiji Meteorological Service and the PNG Office of Climate Change and Development. RMIT completed the interactive decision support toolkit customization for the Pacific Island Nations, which includes observed climate and marine data, future climate and marine data, and non-climate data related to other major drivers of risk. Three internal tools have been refined for displaying visual information relating to the consequences of past extreme climate events, matrices for recording current climate vulnerability and future port climate risk, and a consequence and likelihood risk ranking. The tools have been tested by the stakeholders during interactive workshops. A set of guidelines and a video help section have been created for the toolkit.

RMIT will conduct return visits to both Fiji and PNG to test the toolkit, disseminate the findings of the project, conduct capacity-building exercises, and provide technical assistance to stakeholders. Final results from the engineering concrete deterioration model will be uploaded to the toolkit.

University of Colorado Boulder

National and local data collection activities in Tanzania continue. The team has conducted additional national scale observation and continued interagency dialogue at multiple national-level planning meetings, which have included stakeholders from local CSOs, national ministries, international NGOs, scientists, and others. The team met with eight government agencies and NGOs working on climate adaptation issues at the national scale to introduce the project and met with local level contacts in the two villages selected for further ethnographic study in Longido and Monduli districts. UC Boulder has been granted permission to return to conduct semi-structured interviews and ethnographic observation in July and August 2014. The team is in the process of finalizing the design for the semi-structured interviews and is continuing analysis of the local scale survey and focus group data. Initial results and the research project design were presented at the annual meeting of the Association of American Geographers in Tampa, Florida, in April 2014.

During the next quarter, the team will conduct village scale observation and interviews, national scale focus groups and interviews, and planning for village and national scale workshops expected to be conducted during Q4. Student assistant Daly will present preliminary findings from the project at the annual meeting of the Royal Geographic Society in London.

University of North Carolina at Chapel Hill (UONC): The UONC team continues to develop its vulnerability model based on exposure, sensitivity, and adaptive capacity. The UONC team used Shuttle Radar Topographic Mission (SRTM) digital elevation model produced by NASA to incorporate elevation subcomponents into the model and is currently exploring exposure, sensitivity, and adaptive capacity indicators.

The team has begun gathering contacts in Vietnam and the Philippines, leveraging relationships with in-country organizations to establish connections and build trust. Ongoing tasks include incorporating other sensitivity subcomponents into the model, finalizing subcomponents for adaptive capacity guided by IPCC determinants for adaptive capacity, finalizing field work plans, piloting the team's interview guides to be used during the field visits, and finalizing the vulnerability model.

West Virginia University: The research team has been processing data collected in March from over 200 households in Balaka and Machinga, Malawi and expects to collect an additional 200 surveys by the end of July 2014. Data processing is ongoing, and qualitative interviews are being developed. The WVU team has produced a scientific paper based on their work in on this project that will be sent to a peer-reviewed journal on the topic of variation in Malawi's rainy season. Upcoming tasks include the

continued implementation of the Mzuzu survey, data analysis, finalizing he geo-coded dataset, and preparing the Initial Guidance document.

Pan American School of Agriculture, also known as Zamorano (university): During this quarter, research activities were planned for the experimental watershed and preliminary setup begun. Monitoring equipment has been installed and surveys have been conducted to design weirs for stream flow measurements. In addition, Zamorano has planned a research initiative at the team's experimental watershed to predict production of basic grain crops (beans) based on seasonal rainfall and temperature forecasts in coordination with the International Research institute for Climate and Society (IRI) and the Honduras Meteorological Services (IMN). Plots have been planted and are currently being monitored. In the upcoming months, research activities will continue and a crop model will be calibrated.

The team has developed an online training course on Water, Climate, and Development. Materials are being translated into interactive learning objects, a training program will begin in late August, and recruitment of potential candidates will begin during July.

The team continued to work providing training and technical assistance to community members located within their experimental watershed in Santa Inés and Santa Rosa. Promotion of agricultural adaptation practices has continued, and demonstrative plots have been established.

Sole Source Small Grants

International Environmental Data Rescue Organization (IEDRO): IEDRO and ACMAD microfiche scanning continues, and IEDRO is in the process of reallocating resources to expedite this process.
IEDRO continues to actively work with Light Industries, Inc.to develop a crowd-sourcing program called "Weather Wizards" for the scanned microfiche data. IEDRO also continues to provide technical support to ensure the continued viability of the West Africa Climate Data Rescue and Digitization Facility.

The Mountain Institute: During Q2, John Harlin visited schools, NGOs, and alpine clubs in Europe (Switzerland, Germany, and Austria) to discuss their potential involvement in an Everest Alliance and in a possible new initiative for citizen science monitoring of glaciers and glacier lakes. Reports were sent to TMI-Nepal and TMI HQ, and follow-up meetings were arranged for September.

John Harlin and Nima Wangchu Sherpa conducted a field trip to Kathmandu and Khumbu to discuss the possible function of an Everest Alliance with local stakeholders. This trip included several dozen interviews with sherpas and other ethnic locals from Khumbu as well as presentations on EA work to date.

Ongoing tasks include writing reports about the spring meetings in Europe and Nepal, building-out EverestAlliance.org to incorporate most of the stakeholders in Khumbu, and reaching conclusions on the future of the Everest Alliance and on any potential HiMAP involvement.

CRIS Small Grants Round I

Yayasan Kota Kita: During this reporting period, the Yayasan Kota Kita (YKK) team hosted a dissemination workshop with NGO, private sector, academic, and government attendees to share the 2nd Draft of the Climate Change Vulnerability Assessment of Manado. Discussion focused on the city's climate change infrastructure and the city's main infrastructure issues: water, drainage and coastal development, trash management, and roads and traffic.

The workshop and preparatory meetings with the coordinating planning department (Bappeda) helped identify areas of cooperation and collaboration with the government's ongoing activities. In response to government requests, YKK will help facilitate their annual and medium-term action plans, which will allow the team to ensure that adaptation approaches are integrated into government plans. In collaboration with the urban planning department of the local university, YKK has established groundwork to ensure continued technical support beyond the grant period.

C. OBJECTIVE 1: SUPPORT FOR USAID MISSIONS AND BUREAUS

Under Objective 1, CCRD provides support for USAID Missions and Bureaus. During FY 2014-Q3, CCRD formally launched the Climate-Resilient Development Framework (CRD Framework) and continued work on supporting annexes/papers as well as provided support for the USAID integration pilot in Kazakhstan, including the instillation of the IRI Data Library at Kazakhstan Hydromet.

ACTIVITY 1.1 GUIDANCE, PILOTS, AND RESEARCH

Task 1.1.1 Revise Vulnerability and Adaptation (V&A) Manual

The CRD Framework document was revised, taken through the clearance process, and delivered to USAID on March 24, 2014. The document will be introduced by Kit Batten and the Global Climate Change (GCC) team at the Adaptation Community Meeting on April 7, 2014. Following the introduction, the document will be disseminated widely by USAID and the CCRD team.

Task 1.1.2 Develop Climate Briefs and Annexes

CCRD staff made progress during the quarter on four annexes. Emphasis was given to ensuring that annexes complement the mainstreaming guidance. A final version of the Water Annex was prepared and the remaining three annexes are at various advanced stages of development.

Water Annex

During this quarter, Jason Vogel updated the Water Annex to reflect the final changes made to the framework document. The Annex was delivered to USAID as a final draft on February 14, 2014; it is awaiting clearance.

Coastal and Marine Annex

An external review draft of this annex was provided to USAID on March 27, 2014. Jason Vogel, Cam Wobus, and Alexis St. Juliana incorporated external review comments into the document. Final technical and copy edits, formatting, and graphics are underway. Expected date for final print-ready draft is mid-July 2014.

Governance Annex

During this quarter, Joe Donahue, Jason Vogel and Nimmi Damodaran incorporated USAID GCC team revisions as well as further revisions from Jessica Troell (ELI). The team developed an external review draft that then disseminated to reviewers by USAID.

Vulnerability Assessment Guidance Annex

The Vulnerability Assessment Annex was revised further this quarter and submitted to USAID for a high-level review. The bulk of effort was devoted to ensuring consistency throughout the Vulnerability Assessment Annex after changes were introduced to reflect the new Climate-Resilient Development Framework.

Infrastructure Fact Sheets and Synthesis Paper

This quarter, English and Spanish versions of the Infrastructure Fact Sheets and Overview continued to be distributed to partners and stakeholders related to USAID work, particularly in CRIS pilot cities. This activity will be continued into next quarter as the CCRD team identifies organizations requesting the document.

Task 1.1.5 New Directions in Pilots and Research

Peer Learning Strategy

The Peer Learning Strategy White Paper was completed and was approved by USAID in Q2. Discussions this quarter focused on putting the paper into the new CCRD format for external distribution. Next quarter the paper will be formatted and distributed.

Post Event Assessment of Resilience (PEAR)

The CCRD team made additional progress on building out the PEAR approach during this quarter. In particular, they refined and added detail to an outline for preparing for and executing a PEAR process. Furthermore, a partnership with the American Red Cross is currently under discussion. In the next quarter, the CCRD team will continue conversations with the American Red Cross, CCRD partners, and the GCC team about potential next steps.

ACTIVITY 1.2 INFORMATION, TOOLS, AND SCIENCE AND TECHNOLOGY

Task 1.2.3 Support the United Nations Development Programme (UNDP) Adaptation Learning Mechanism (ALM) Website

The ALM website is entering the final phase of redevelopment – theming and content migration. The decision on where to host the site has been made and a plan for migrating content from the old site to the new has been developed. The CCRD team meets with the Aten Design Group weekly by telephone to raise and resolve issues. The planned launch date is the fourth quarter of FY14.

ACTIVITY 1.3 TECHNICAL ASSISTANCE AND CAPACITY BUILDING SUPPORT

Task 1.3.4 Provide Support for USAID Integration Pilot in Kazakhstan

CCRD continued to support the USAID-funded and UNDP-implemented Climate Resilient Wheat (CRW) Integration Pilot during the reporting period, with activities focused on installing the IRI data library software at the Kazakhstan Hydromet Office (KHM), taking part in a conference hosted by the CRW Pilot project, and capturing additional footage for the world of wheat video.

IRI's Chief Forecaster, Tony Barnston, and IRI's Data Library Specialist, Igor Khomyakov, travelled to Astana, Kazakhstan, from April 21-25, 2014. The objectives of the visit were to complete the installation of the IRI Data Library software at the Kazakhstan Hydromet Office in Astana, provide training on the general functionality of the Data Library, demonstrate use of the IRI's Climate Predictability Tool (CPT), and advance the creation of probabilistic forecasts. The five-day collaborative capacity building event was attended by 20 KHM staff. KHM now has the capability to easily monitor drought conditions in near real time, use the Data Library software to examine the occurrence and severity of historical droughts and make statistical predictions of drought conditions for the coming season, including the generation of associated graphical displays.

CRW organized a one-day conference in Dushanbe, Tajikistan, titled "Central Asian Practical-Scientific Conference: State and Problems of Central Asian Wheat Production Sector in the Climate Change". The

conference featured plenary and parallel presentations on local efforts to understand and respond to climate change in the production of wheat. CCRD CoP Glen and Anderson and Consultant Alan Basist made presentations during parallel sessions at the event.

CRW/CCRD Climate Resilient Wheat Video

Following up on discussions with Videographer Daniel Byers, Glen Anderson arranged for additional footage to be filmed to respond to comments during the last TDY mission and to add some new footage on the Conference in Dushanbe, Tajikistan. There are still a couple of gaps to be addressed before the film can be finalized this summer.

D. OBJECTIVE 2: COORDINATE WITH OTHER US GOVERNMENT AGENCIES TO SUPPORT MAINSTREAMING

ACTIVITY 2.1 ADAPTATION PARTNERSHIP WORKSHOPS

Task 2.1.1 Conduct Adaptation Partnership Workshops

Climate Change Basics Training for MPA Practitioners (Western Indian Ocean [WIO] region)
CCRD, in conjunction with the National Oceanic and Atmospheric Administration (NOAA) and the Western Indian Ocean Marine Science Association, carried out a second training to build capacity within the region to understand and respond to climate vulnerabilities. The "Western Indian Ocean (WIO) Marine Protected Area (MPA) Capacity Building Workshop and Mentor Training II – Vulnerability Assessment, Scenario Planning, and Analyzing Adaptation Strategies" was held in Zanzibar from May 31June 6, and consisted of a mentor (May 31-June 1) and general training (June 2-6). For the mentor training, there were 11 participants from 8 countries in the region. The purpose of the mentor training was to familiarize mentors with training agendas and materials, so that they can take on increasing roles and responsibilities for training delivery, preparing them eventually to become the instructors. For the general training, there were 31 participants (11 mentors, 20 general participants). The purpose of the general training was to provide MPA managers in the region with the knowledge, skills, and tools they need to better understand the climate vulnerabilities and impacts that affect their sites as well as to identify, evaluate, and select actions to reduce these vulnerabilities and increase resilience.

Expected outcomes of the overall training program include: a new network for MPA practitioners to exchange knowledge and experiences on managing climate and non-climate stressors; a cadre of local experts who can continue to build capacity to understand and respond to climate change issues in marine and coastal areas in the WIO region; participant roadmaps that articulate the actions they expect to take over the next year in relation to the topics covered in the training; MPA practitioners better understand and are able to address climate and non-climate stressors, reduce vulnerability, and increase resilience, enabling them to manage their MPAs more effectively.

E. OBJECTIVE 3: IDENTIFY AND RESPOND TO EMERGING ISSUES AND FILL GAPS

Under Objective 3, CCRD continued work during FY 2014-Q3 on the four emerging areas. The NAP working group finalized a policy brief for UNFCC focal points and participated in high-level multi-donor meetings. Under High Mountain Adaptation Partnership (HiMAP), work continued on completing the Local Adaptation Plans for Action (LAPAs) in Peru and Nepal. The CSP began expanding on the outcomes from the ICCS3 conference held in Jamaica, and continued supporting the Agricultural Model Intercomparison and Improvement Project (AgMIP). The CRIS program continued implementation activities in pilot cities in Peru, Dominican Republic, and Mozambique.

ACTIVITY 3.1 SUPPORT ADAPTATION PLANNING AND IMPLEMENTATION

Task 3.1.1 Support Preparation of National Adaptation Plans

During this quarter, in collaboration with the University of Rhode Island Coastal Resources Center, the CCRD team circulated the draft policy brief for review by the broader group of participants from the West Africa workshop and, drawing from their input, developed a final version. The final version is currently awaiting approval from Economic Community of West African States (ECOWAS). Progress in Jamaica has been transferred to the Climate Resilient and Low Emission Development Strategies (CRLEDS) and Climate Services tasks within CCRD.

Joel Smith, Megan O'Grady, and Yoon Kim worked with AID/GCC staff on finalizing the paper on U.S. support for NAP. The paper was submitted by the State Department to the UNFCCC and discussed in the June UNFCCC meetings in Bonn, Germany.

Mr. Smith and Mukul Sharma attended and participated in a meeting in Washington, DC, on May 12 to compare programs on national adaptation planning with John Furlow and Jonathan Cook from USAID and staff from the UK Department for International Development (DFID) and the German GIZ. Mr. Smith presented insights he obtained from attending a UNFCCC technical meeting on national adaptation planning in February in Tanzania.

Task 3.1.2 Develop and Pilot Fast-Track Implementation Concept

During FY 2014-Q3, CCRD partner ICF reviewed and revised the working paper, *Fast-Track Implementation of Climate Resilience: A Compilation of Adaptation Options*, and submitted it to USAID for review. The technical report was approved by USAID in late June 2014. Elements of the FTI approach are being implemented through CRIS small grants and pilot work in Peru, Mozambique, and the Dominican Republic.

ACTIVITY 3.2 GLACIERS AND MOUNTAINS

Task 3.2.2 Develop the High Mountain Adaptation Partnership's (HiMAP) Community of Practice (CoP)

CoP members were updated on HiMAP activities through a diverse portfolio of interactive and consistent communications. Two newsletters were sent to CoP members, the website was updated, and member participation in a future webinar was solicited. These tasks serve to build and consolidate the CoP by continuing to involve members in HiMAP activities.

The impact of the May 2014 Khumbu Alpine Conservation Council (KACC) and glacial lake reconnaissance meeting was multiplied by the production of a short video optimized for web distribution. The video underscores HiMAP's engagement with the local community and illustrates the impact of HiMAP research on Imja Glacier.

In addition, team members undertook a month-long trip to Kathmandu and the Khumbu to interview local stakeholders for a potential Everest Alliance. This is an important step in the process of building the infrastructure for a strong and adaptable CCRD legacy beyond the resolution of the project.

Task 3.2.4 Implement CoP Pilot Project and Research

Nepal Regional Local Adaptation Plan for Action (LAPA)

Following the completion of the full Khumbu LAPA, a summary was produced, following the seven-step method of the Government of Nepal (GON) and including brief descriptions of how each step was facilitated. The summary LAPA will be accompanied by the full LAPA as a reference and resource document, as well as a 10-page version focused on tangible LAPA results.

The Khumbu LAPA distinguishes itself from other LAPAs in Nepal by emphasizing local development and development needs, considering a larger geographical unit for planning as compared to the GON method of using single Village Development Committee (VDC), and incorporating scientific data and knowledge to supplement local experience and perceptions of climate change impacts and vulnerabilities.

Results from the HiMAP glacial lake surveys are routinely shared with participants and the GON. This may have influenced the ranking of GLOFs as the number one hazard in terms of risks and impacts, despite a high level of local skepticism prior to HiMAP activities (i.e., before 2011). Mr. Ramchandra Kandel, DNPWC Chief Conservation Officer, conducted an official review of the Khumbu LAPA. He was highly complementary of the plan, calling it "a vital document for this region and it is an asset of the TMI"

This quarter, the team has focused on mainstreamingthe LAPA into existing or forthcoming plans and programs, such as those from DDC, VDCs, Sagarmatha National Park, Buffer Zone Council, and district-based line agencies. The process included establishing MOUs and planning and conducting the mainstream consultations.

MOUs were established with the SNP and Buffer Zone Council at their request, allowing these entities to officially and formally endorse the plan and relationship with HiMAP. MOUs were drafted accordingly by the HiMAP team and are currently under review by SNP and BZ authorities. The process

of conducting community consultations with each of the six Buffer Zone Councils began in late June as the Kathmandu-based HiMAP team left for the Khumbu, and will continue in Khumbu through the first two weeks of July.

Khumbu Valley GLOF Reconnaissance, Risk Modeling, and Community-Based Risk Management and Mitigation

Collaboration with the UNDP Community Based Flood and Glacial Lake Outburst Risk Reduction Project (CFGORRP) continued in this quarter with submission of a proposal for the "Preparation of Detailed Technical Design for Imja Lake Lowering and Supervision during construction in Solukhumbu District" procurement by TMI, the University of Texas at Austin, and HydroConsult Engineers (Kathmandu). DHM continued to study the HiMAP data from bathymetry and ground penetrating radar (GPR) studies at Imja Lake provided by HiMAP in the previous quarter.

Coordination with Damodar Lamsal of Kathmandu University allowed the team to map and communicate hazards to community members. A full report on this "Evolution of Imja Lake Mitigation Strategies" is in draft form and will be reported in July. Results of this modeling were presented to the KACC on May 13 in Dingboche.

The development of the Imja Lake hydrology model continued with the final revision and acceptance of the paper entitled "Thermal Resistances in the Everest Area (Nepal Himalaya) derived from Satellite Imagery using a Nonlinear Energy Balance Model" by David Rounce and Daene McKinney in the journal *The Cryosphere*. An additional paper reporting the results of the Imja glacier GPR, Imja Lake bathymetry, and NASA Landsat analysis of the growth of Imja Lake over the period 1992-2012 was accepted in the journal *The Cryosphere Discussion*. The team performed further instrumentation of the Imja glacier during the May 2014 mission, installing data collection instruments that will be retrieved in October 2014 to complete the Imja Lake hydrology model. Instruments installed included an infrared camera to determine debris cover and correlate temperature readings with NASA Landsat 7 and 8 satellite data, an automatic weather station to collect temperature, wind speed, incoming solar radiation and soil moisture on the glacier, a time lapse camera to film the calving from the front of the glacier into Imja Lake, 20 ablation stakes to directly measure the melting of the glacier and verify the glacier melt model, temperature sensors to measure debris temperature at different depths down to the glacier ice, and instrumentation to conduct a land survey of the glacier.

Climate change adaptation, risk mitigation, and disaster management capacity building for the high mountain city of Huaraz, Peru

This quarter, HiMAP activities in Peru focused on supporting implementation of adaptation measures identified in the LAPA. TMI and the Rangeland Laboratory of Universidad Agraria La Molina (LUP-UNALM) established a consortium to implement a wetland restoration and conservation project in the Quillcay watershed financed by the Ministry of Environment of Peru (MINAM). In addition, a number of deliverables from the HiMAP project were translated, edited and published in Spanish with funding from MINAM. The TMI HiMAP team provided technical expertise to aid in developing a Disaster Management Plan for Quillcay watershed and Huaraz city.

The HiMAP team in Huaraz also presented the results of the GLOF model, hydrology studies of Quillcay and the GIS database through a series of workshops coordinated with MINAM and targeted to national agencies, a process which both helps disseminate HiMAP results and confers official validation of the HiMAP study. In addition, MINAM financed TMI's development of an Early Warning System project profile which conformed to national public investment system (SNIP) requirements, which will be implemented by the Waraq Commonwealth. TMI is also providing technical assistance to the Waraq Municipal Commonwealth to apply the results of the LAPA its "Institutional Strategic Plan" (PEI), a mandatory planning tool required by the Government of Peru to finance any future funding proposals coming from the Waraq Commonwealth.

Building on the GLOF modeling and inundation reported last quarter, data from the 2007 Peru Census for the City of Huaraz was used to calculate social vulnerability to a Lake Palcacocha GLOF and the potential reduction of vulnerability with the installation of an early warning system. Results will be reported in July to stakeholders in the Waraq Commonwealth Technical Committee and MINAM for their use in preparing the early warning system for Huaraz.

Building scientific, social, and institutional capacity to mitigate risks of glacial lake recession and outburst floods

Collaboration continued with colleagues from the Research Institute for Development (IRD) and French Unit of Glaciology. The two groups joined HiMAP to present a joint poster at the European Geophysical Union meeting in April 2014. This was the final activity under this task, which assisted Peru's Unit of Glaciology to develop their capacity in glacier ice measurements using GPR.

ACTIVITY 3.3 CLIMATE SERVICES

Task 3.3.2 Coordinate Activities of the Climate Services Partnership

During this period, significant progress was made in the collaborative effort around climate services ethics, launched as a CSP initiative at the International Conference on Climate Services (ICCS) – 3 in Jamaica. The Secretariat, together with three CSP members, developed an initial plan of work for a Working Group on climate services ethics and led the process of developing the Working Group membership, which included outreach to the Global Framework on Climate Services (GFCS), WHO, FAO, CCAFS, the Red Cross Climate Center, UK Met Office, NOAA, Acclimatise, well as several academic andresearch organizations.

The first working session of the Working Group was organized and held June 11-13, 2014, at Loughborough University, UK (with travel support provided from CCRD, leveraging a larger contribution from NOAA). The group finalized a first draft white paper, the Working Group's primary output this year, identifying a set of values and a proposed set of good practices regarding climate service provider practices and products. A student intern will continue these efforts, assisting in the background research, supporting for the white paper development, and promoting community outreach.

The Working Group on Research Prioritization also began developing a survey that will be issued to the wider community to understand the gaps and opportunities in each sector and geographic region. The survey is currently under review and is expected for release Summer 2014 as well as presented at ICCS 4 in December (tentatively set to take place in Montevideo, Uruguay).

The Secretariat has continued to strengthen its relationship with the GFCS. During this quarter, the initial sections of the GFCS-CSP white paper detailing opportunities for greater cooperation were drafted, and CSP is targeting completion of a full first draft over the next several months. Further coordination on climate services is being explored, with a focus on sharing El Niño information. Collaboration is being discussed in high level meetings regarding the creation of an IPO administered by CIAT which can engage additional partners in supporting and implementing a climate services initiative within which the CSP can function and be supported in the future. Interested parties currently include the CSP Secretariat, IRI, CCAFS, the International Center for Tropical Agriculture (CIAT), NOAA, USAID, The University of Arizona, and the GFCS.

Community connectivity continues through the production of the quarterly CSP Newsletter. The fourth edition was distributed in early April 2014, and the fifth will be released in early July.

Task 3.3.3 Compile and Disseminate Current Climate Services Knowledge

Subtask 3.3.3.1 CSP Website

The IRI Data Library and the knowledge forum are being redesigned to maximize coordination and usability. phpBB was identified as the preferred open-source alternative to the current system, and a proof-of-concept interface verified the program's heightened compatibility with both web interfaces. Registration and password management systems are being developed in conjunction with phpBB rollout.

Subtask 3.3.3.2 Online Searchable Database of Current Climate Service Activities

Sixty-three new entries were made to the online searchable database over the past three months. The breakdown of these entries is as follows: 12 from Africa, 17 from Asia and the Pacific, 16 from Europe, 10 from North America, and 7 from Latin America/the Caribbean. Of all responses, 33 were associated with the health sector, 26 with urban issues, 43 with agriculture, 32 with decision support systems, 36 with disaster risk reduction, 28 with education, 30 with energy, 14 with financial services, 30 with food security, 25 with tourism, and 34 with water.

Subtask 3.3.3.3 Climate Services Communications

Francesco Fiondella, Senior Communications Officer, developed and disseminated a wide range of communication pieces this quarter, including a write-up on the IRAP CariCOF activities, a video with Adrian Trotman and Cédric Van Meerbeeck from CIMH on Caribbean vulnerability to climate change, a dramatization of forecast applicability by Jamaica Met Service, several Facebook posts, and a regularly updated IRI Twitter feed.

Task 3.3.4 Conduct Case Studies and Assessments of Climate Services

The next step in the CSP evaluation working group will be a summary report linking existing evaluation methodologies to an overarching evaluation framework. The report will develop metrics and guidelines for evaluation. Grey literature to support this summary paper is currently being produced and – in collaboration with the lead evaluator at the University Corporation for Atmospheric Research (UCAR) – analysis is underway.

Task 3.3.5 Economic Valuation of Climate Services

Cathy Vaughan attended a writing workshop of the CSP's economic evaluation working group at the end of April. The workshop resulted in an improved draft of a book on evaluation methodologies, produced jointly with the World Meteorological Organization and the World Bank.

Task 3.3.7 National/Regional-level Climate Services Development

Subtask 3.3.7.1.a Climate Service Capacities and Communities of Practice in West Africa

The report regarding January's workshop in Niamey, Niger entitled '*Improving Resilience to Climate Impacts in West Africa through Improved Availability, Access and Use of Climate Information: Dialogue with Users'* was completed. The report summarizes workshop sessions, details stakeholder feedback, and presents final recommendations.

Subtask 3.3.7.2 Central America Follow-up Workshops to Adaptation Partnership Workshop

In Honduras, the team – which includes representatives from the meteorological agency, the coffee research center, and Zamorano University – has shared historical meteorological station data, which is now available on the IRI Data Library. This data was used to produce a Maproom that describes precipitation and temperature in both Spanish and English. A Maproom of historical soil water balance is also under construction that, in the future, will be complemented by monitoring and forecast information.

Communications and monitoring continued as the Honduran team established an FTP service to update monthly files of daily rainfall data for about 30 stations. Zamorano University has begun the process of calibrating the DSSAT crop model with maize and beans (local seeds with typical management practices for rural areas) in two locations, including the demonstration plots at Zamorano and a local micro-watershed with a recently installed weather station. The information collected from these activities will allow the team to run DSSAT with disaggregated seasonal forecasts and produce locally attuned crop yield models.

In Guatemala, the Private Institute for Climate Change Research and the IRI are using the Climate Predictability Tool (CPT) to resample seasonal forecasts and create an ensemble water balance forecast. The IRI has performed limited quality control on data provided by the The National Institute for Seismology, Vulcanology, Meteorology and Hydrology of Guatemala (INSIVUMEH) and it is now part of a development version of the IRI Data Library. Tailored historical temperature and precipitation as well as historical water balance Maprooms are pending further data collection and quality control with INSIVUMEH. The IRI is currently searching for additional funding sources to support INSIVUMEH's request for training on the use of the CPT to make seasonal forecasts, the use of simulation models, and the development of a data library for Guatemala.

Subtask 3.3.7.3 South-South Collaboration in Tool Development

The development of the online forum is continuing with the use of phpBB software, which proved to be the most compatible program, allowing for integration into multiple websites in a manner that will satisfy the project's needs. Registration and password management are currently being developed as well.

Subtask 3.3.7.4 National-Level Climate Services Development in Jamaica.

The climate services initiative has focused on the Working Group on Agriculture and Climate, which IRI has supported by providing advice and technical support through in-person and virtual meetings.

Following the IRI Climate Predictability Tool's international rollout at ICCS3, the Jamaica Met Service (JMS) has continued to work on skill assessment with regards to implementation with assistance from Simon Mason at the IRI. IRI has also been working with the JMS to incorporate additional climate data in the IRI Data Library, supporting a soil water balance monitoring and prediction tool – one outcome of the tools training workshop hosted at IRI with Jamaica WG partners. The JMS has shared historical daily precipitation and temperature data, dating from 1984. As they didn't have the resources to format the files in a clean manner, the IRI has had to develop an interface to assimilate the data into the Data Library. Once this is complete, historical precipitation, temperature, and soil water maps will be developed.

The first climate services stakeholder workshop was held in Kingston on April 15, 2014. This meeting was designed to assess agriculture community awareness, access, use, and value of climate information services piloted under the Jamaica agricultural climate services initiative. IRI provided advice and assistance in developing the workshop structure, content, and participation. IRI/CSP served as co-conveners of the workshop, with S. Zebiak, C. Vaughan, and W. Baethgen attending. The corresponding workshop report contains a number of findings that can guide the Working Group in its work over the coming year, and will be the focus of upcoming WG meetings. It will also be important for the working group to reflect on the workshop outcomes and consider how the stakeholder engagement process can be strengthened and sustained in the future.

In planning is a visit of a technical team from Jamaica to Uruguay and a high-level policy discussion between the two government ministries and invited partners to support a South-South exchange process. This process would allow innovations developed in agricultural climate service in Uruguay to be shared with Jamaican partners.

IRI is developing a summer internship program on climate services in Jamaica in conjunction with the University of West Indies (Mona), the University of Arizona, and the University of the Republic (Uruguay). The program is intended to extend the process of consultations with stakeholder institutions and farmer groups already involved or candidates for involvement in Jamaica's agricultural climate services. The students, with mentorship from UWI faculty and IRI, will seek to understand better current practices, needs, and opportunities for climate services. Support for this activity has been garnered from UWI, NOAA, and other sources.

Task 3.3.8 Develop Climate Services Products for the Agricultural Sector

IRI and CCSR continue to collaborate on improving characterization of agricultural systems and near-term climate scenarios that may impose stress. Outputs like the simulation of major agricultural systems and improved exploration of plausible near-term climate impacts promise to improve capabilities of developing country scientists.

Subtask 3.3.8.1 Develop the Next Generation of Global Gridded Biophysical Model Systems

In partnership with the University of Chicago and The Agricultural Model Intercomparison and Improvement Project (AgMIP), researchers at Columbia's Center for Climate Systems Research (CCSR) continue to advance its prototype, harmonized platform that uses multiple crop models and improved climate, soil, and management inputs for a parallel System for Integrating Impacts Models and Sectors (pSIMS).

During the period, AgMIP researchers at CCSR held a workshop April 9-11, 2014 entitled "Advancing Global Agricultural Assessments: Building the Next-Generation Global Gridded Biophysical Model System - A Workshop to improve the use of soil data in large-scale multi-model tools for climate impact assessments in Africa". The workshop brought together 20 experts in large-scale gridded crop and climate impact modeling with soil data experts to produce concrete advancements in gridded soil data representations and availability for Africa. Outcomes included the development of a new soil dataset for Africa (S-world Africa), the incorporation of a new soil dataset (AfSIS) into the AgGRID framework, the development and improvement of a variety of tools, translators and functions to be used by the modeling community, an agreement on the initial soil conditions to best harmonize for future intercomparisons, preliminary intercomparisons between both models and soil datasets in the Sub-Saharan African region, and initiation of development on new, parallel version of the SALUS crop model (pSALUS).

Subtask 3.3.8.2 Develop Near-Term Climate Scenarios for AgMIP

Simulations for both the West Africa and South India domains are complete. The latter proved to be considerably more complex, and included three identifiable subdomains having partially distinct precipitation climatologies. This required a correspondingly more complex treatment, since these subdomains also share certain climatological elements. Results have generated ensembles of climate and weather time series for the historical period for AgMIP focus regions in Sub-Saharan African and South Asia, which has been which generated and delivered to the IRI data library (DL). Processing which would allow for search capabilities is currently underway.

Results have also generated ensembles of climate/weather time series that extend to 2030 for same regions, documentation of data methodology, interpretation and recommended use, and analysis of agroclimatic impacts driven by near-future ensemble of climate time series. Work on agroclimatic impacts is ongoing, with a focus on test applications for extreme events in Senegal. We are applying the near-term climate scenarios for millet simulations in order to gauge the effects of interannual variability

and climate change signals separated from aerosol trends that are not likely to continue into the future. Additional applications are also addressed in a preliminary fashion in the manuscript mentioned above, in addition to recommendations to adapt use thoughtfully to each region to which it is applied.

Task 3.3.10 International Research Institute for Climate and Society (IRAP)

Task 3.3.10.a Research and Development on Decision Support Tools. Early warning system

IRI's Financial Instruments Sector Team (FIST) drafted a concept note describing the research and development of decision support tools under IRAP. This research aims to identify the economic value of seasonal forecasts by revealing stakeholder preferences through experimental games, particularly in the choices made by disaster risk managers when faced with extreme climate outlooks. In addition to providing evaluation insights for improving climate services, this research will inform capacity building workshops in disaster preparedness, as well as quantify the benefits of forecast availability for developing insurance options for individuals and agencies.

Task 3.3.10.b Website

In addition to the IRAP website which went live in November 2013, IRI has also developed prototype Maprooms for the focus regions, which are linked to the IRI Data Library and can be used for monitoring and forecasting acrosstime scales. In the remainder of Year 3, we will consult with Caribbean Institute of Meteorology and Hydrology (CIMH) to refine and evolve the Maproom to bring together some of the socioeconomic and other stakeholder data with the climate monitoring and predictions.

Task 3.3.10.c Training Materials and Stakeholder Workshop

In the third quarter a two-day stakeholder workshop was held May 26-27 in Kingston, Jamaica. The IRAP team collaborated with CIMH in hosting the workshop in the days following the Caribbean Climate Outlook Forum (CariCOF) and took advantage of this gathering of stakeholders in the water, disaster management, health, and agriculture sectors to determine local capacities, needs, vulnerabilities, and opportunities to build networks. During the two days of the workshop, IRI and UA held simulations, led discussions, administered surveys, and conducted interviews in order to gather information about how we can work with, and learn from, our partners in the Caribbean. In the remainder of Year 3, we will begin to develop training materials for future workshops in the Caribbean and the other IRAP regions based on the materials used for the workshop and analysis of results from stakeholder interactions/exercises. The workshop report will be provided in the next quarter.

ACTIVITY 3.4: CLIMATE RESILIENT INFRASTRUCTURE SERVICES PROGRAM

During this quarter, CCRD partners continued to implement the Climate Resilient Infrastructure Services (CRIS) Program, which is focused on developing and testing approaches that can increase the climate resilience of infrastructure and the services they provide in developing countries.

Task 3.4.2 CRIS Support to Pilot Cities to Accelerate Climate Risk Management

The CCRD CRIS team including partners from ICF, Stratus, Engility, and Cascadia worked with pilot cities in Mozambique, Peru, the Dominican Republic, and Vietnam. The work in Mozambique, Peru, and the Dominican Republic focused on implementation of CRIS work plans with each city in alignment with USAID's Climate-Resilient Development Framework. In Hue and Hanoi, Vietnam, CCRD partner Cascadia continued to implement a customized Climate Impacts Decision Support Tool (CIMPACT-DST) for the government of Vietnam. The following sections summarize the progress achieved in each pilot city during this reporting period.

Mozambique

This quarter, CCRD partners ICF, Stratus, and Engility visited Nacala-Porto, Mozambique, on April 13-20, 2014. During the visit the team led a Training-of-Trainers (TOT), consisting of a series of presentations and small group exercises. The TOT helped develop a group of local experts who can further mainstream climate resilient development into planning and practice, including at the local community level where needs are greatest. In addition to the TOT, an awareness-raising workshop helped participants understand the importance of considering climate change in infrastructure-related decision-making.

Also, while in country, a survey was conducted to document the historical impacts of climate-related stressors on infrastructure services for the past four years, supported by a tour of the municipality that focused on areas that are highly vulnerable to erosion, sedimentation, and flooding; adaptation measures that have been implemented (e.g., drainage canals, gabions); and impacts on infrastructure services (e.g., housing, roads, port). The erosion study and tour enabled the CRIS team to better understand the linkages between climate and erosion in Nacala-Porto and their implications for the region's development objectives; this has informed the development of a vulnerability and adaptation screening tool to help municipal officials identify ways of reducing erosion-related impacts on planned infrastructure projects.

Subsequent to the visit, the CRIS team completed a survey of historical impacts of climate-related stressors on infrastructure services with the help of the CRIS local coordinator in Mozambique, Momade Amade, and input from relevant municipal stakeholders, as needed. This information was then compared to data on rainfall events during the same period and an analysis of erosion impacts was conducted to better understand erosion and climate-related risks in Nacala-Porto. The team also developed a vulnerability and adaptation screening tool for municipal staff to use on existing and planned infrastructure projects. It is designed to support the "Assess" and "Design" steps of the CRD Framework.

During the next quarter, CCRD partners ICF and Stratus will conduct a working trip to Nacala-Porto from June 25 through July 4, 2014. The objectives of the trip will be to test the project vulnerability and adaptation screening tool in working group sessions with the municipality and INGC. During the trip, the CRIS team will also: meet with the Coastal Cities Adaptation Program, USAID, and other stakeholders in Maputo to discuss potential collaborations; engage with stakeholders to promote the small grants solicitation; and discuss next steps with the municipality and the INGC.

Dominican Republic

In this quarter, CCRD partners ICF and Stratus continued activities on the Santo Domingo pilot focusing on the identification of historical climate changes and future potential climate impacts for Santo Domingo, and an examination of climate-related vulnerabilities and potential adaptation strategies for existing and planned sanitation infrastructure serving Ward 3 of the National District.

CRIS team members conducted one trip to Santo Domingo during this quarter from April 27 to May 2, 2014. Two full-day workshops were conducted featuring an introduction of key tools to conduct climate impacts and vulnerability analysis, a presentation of climate impacts results for Santo Domingo and an overview to climate change impacts and implications for wastewater infrastructure and to risk assessment.

As part of the introduction to climate change impacts session of the workshop, the CRIS team presented and discussed an Impacts Matrix showcasing potential impacts of four climate stressors on specific sanitation assets. The CRIS team will refine and add information to the matrix based on the outcomes, feedback, and information shared by participants during the climate impacts workshop session.

During this quarter, the CRIS team also conducted a virtual meeting with the Working Group to advance the vulnerability analysis and introduce adaptation options and evaluation criteria. In the meeting, the

CRIS team discussed potential climate change impacts to the sanitation system and facilitated a discussion of adaptation options. A second virtual meeting will be conducted at the beginning of the next quarter. During this meeting the CRIS team will focus on specific adaptation options for the sanitation assets that are being assessed by the Working Group, conduct exercises on evaluating some of those options, and begin brainstorming on an Action Plan that will help guide the Working Group to continue its work after the CRIS pilot concludes in July 2104.

During the next quarter, the team will make a final visit to the National District to finalize the approaches, tools, and information developed with the Working Group during the pilot. The visit will also involve a working session to finalize activities for the Action Plan and briefings with key stakeholders in the ADN on the outcomes achieved through the duration of the CRIS pilot.

Peru (Piura)

The CRIS team conducted a trip to Piura in May 2014 to continue implementation activities of the work plan. The team held three half-day training sessions to implement an approach for adaptation option identification, evaluation, and prioritization. The training consisted of presentations and interactive sessions with the objective of stepping municipal officials through the process of developing implementation portfolios of adaptation options for planned infrastructure projects.

The team also held a number of working meetings to establish a technical group on climate change to support the municipality on climate resilience. The CRIS team's local coordinator in Piura investigated the proper way to establish an official Technical Group within the Municipality and developed a list of priority activities the group could undertake. The coordinator identified contacts with experience in technical groups at the municipal and regional level and conducted consultations with experts in this area that will likely serve as members of the group.

Finally, a working draft of the Climate Information Database for the Municipality of Piura was developed and introduced. The Excel-based database is a test product that collects information on current and future climate into a single, consistent resource, which is tailored towards municipal decision-making. The database was shared with the Municipality of Piura and it will be expanded and finalized through surveys with relevant municipal departments in the subsequent quarter.

During the next quarter, the CRIS team will focus on refining the tools and approaches that have been developed in Piura into completed products that can be handed off to the Municipality; namely the vulnerability assessment screening tool, climate information database, and approach for identifying, evaluating, and prioritizing adaptation options based on the results from testing these products in Piura.

In country, the team will implement a joint peer learning and training event in Piura with the Municipality of Trujillo on the final CRIS pilot visit to Piura in July 2014; this will involve implementation of the CRIS game with the two municipalities, follow-on from the Climate Leadership Academy (CLA) Workshop held in Santo Domingo in FY14 Q2, and interactive sessions allowing officials in similar positions within the two municipalities to meet and discuss climate resilience.

Peru (Trujillo)

In this quarter, the CRIS program, led by CCRD partner ICF conducted a number of in country activities in Trujillo, Peru. The team held a one-day workshop on identifying and selecting adaptation options for Fast-Track Implementation (FTI) to reduce the vulnerability of planned infrastructure projects and operations to climate change impacts. A training on the vulnerability assessment screening tool (developed, tested, and refined under the Piura pilot) to relevant municipal departments in Trujillo was also delivered.

During the next quarter, the team will travel to Peru in July 2014 to finalize an Action Plan that identifies key actions necessary to ensure that CRIS activities are supported beyond the program, and to enable

other initiatives, donors, and organizations to efficiently build on CRIS's work with Trujillo; finalize and deliver the Vulnerability Assessment Screening Tool and Fast Track Implementation Tool based on feedback from the Municipality; and participate in a peer learning session with Piura. This peer learning session will include topics of interest to both municipalities, and presentations from both parties.

Task 3.4.4 Global City-To-City Information Exchange

In this quarter, efforts involved follow-up on the CRIS Regional Climate Leadership Academy workshop held in Santo Domingo, Dominican Republic, during the previous quarter. A workshop report summarizing challenges, current efforts, and proposed solutions discussed by workshop participants, as well as workshop outcomes, remaining needs, and next steps were developed. Furthermore, the resource guide used at the workshop was disseminated to participants and the larger stakeholder community.

In addition, draft game and facilitation materials for the CRIS game were completed and tested this quarter. The game investigates the trade-offs between near-term, "fast-track" and long-term, hard adaptation options for infrastructure. The game will be facilitated with the CRIS pilot cities of Piura and Trujillo in the coming quarter. It is also expected to be implemented as part of the Nacala-Porto CRIS pilot, the Macedonia advanced adaptation training, and USAID's Infrastructure Workshop in December 2015.

On May 29, 2014, CCRD partner ICF facilitated a panel discussion on the first day of the ICLEI Resilient Cities Congress, in Bonn, Germany. The panel focused on approaches to vulnerability assessment of cities and urban infrastructure and included representatives of the USAID CRIS program and the IDB Emerging & Sustainable Cities Initiative.

Task 3.4.5 Provide Information and Technical Resources to USAID Staff

On May 7, 2014, members of the CRIS team facilitated a session at a USAID training on climate change and adaptation economics. The session began with an introduction of the Climate Resilient Development framework and CRIS program overview. A case study was then provided of the CRIS vulnerability assessment screening approach implemented in Piura, Peru.

Task 3.4.6 Evaluate CRIS Activities and Recommend Next Steps

The CRIS team has continued to collect and report indicators for monitoring and evaluation of the CRIS program, drawing on the CCRD indicators applied in Year Two. For the Piura, Nacala-Porto, and National District of Santo Domingo pilots, the CRIS team collected pre- and post-workshop survey information to assess changes in adaptive capacity of participants.

Task 3.4.7 Cascadia Vietnam Pilot

In FY14-Q3, CCRD partner Cascadia Consulting continued to evaluate the pilot release of the Climate Impacts Decision Support Tool (CIMPACT-DST) in Hue, Vietnam, and commenced tool beta-testing and training activities for the national deployment of the tool with partner organizations in Hanoi.

During the reporting period, the team conducted two visits to Vietnam. The first, from April 18-29, focused on introducing the tool and pilot project to stakeholders in the Ba Ria-Vung and Can Tho provinces, securing stakeholder commitments for future tool testing and training, and planning future trainings. The second visit, from June 24-30, centered on conducting a tool user trainings for over 70 personnel at VIUP, the Vietnam Institute of Meteorology, Hydrology, and Environment (IMHEN), and in Ba Ria-Vung Tau and Can Tho provinces.

In the next quarter, the project team will convene a national tool dissemination workshop that will include more than 100 participants from local and national universities, professional organizations, and governments, as well as from international funding agencies and research institutions. Activities will

include a formal training, case study examples, and discussion section. Workshop attendees will benefit from enhanced issue awareness and tool training and access.

ANNEX I. CCRD PERFORMANCE INDICATORS AND ACHIEVEMENTS

During FY 2014-Q3, implementation activities supported ten of the 11 performance indicators specified in the CCRD Performance Management Plan. Below is a summary of CCRD performance indicator achievements, followed by a summary table.

Indicator #1: Number of people with increased capacity to adapt to the impacts of climate variability and change as a result of USG assistance (mandatory for Adaptation funding). This indicator is the most stringently measured under CCRD. Measuring adaptive capacity requires an initial baseline assessment of the targeted capacity(ies) and a post-intervention assessment. Due to the need for post-intervention assessment and follow-up, some interventions are not reported until a later reporting period.

(1) ATRREE interviews, training, and participation in documentary film on the effects of climate change on agriculture in the Eastern Himalaya (13 men and 4 women)

Indicator #2: Number of stakeholders receiving training in climate change supported by USG assistance (Person-hours of training completed in climate change supported by USG assistance). Training is defined as a learning activity involving 1) a setting intended for teaching or transferring knowledge, skills, or attitudes; 2) formally designated instructors or lead persons; 3) a defined curriculum, learning objectives, and outcomes. Meetings or other efforts that could have educational value but do not have a defined curriculum or objectives are not considered training.

Support for indicator #2 resulted from 14 workshops/trainings:

(1) Dr. Adam French led a field excursion to Callejon de Conchucos for members of the Cruz de Mayo Compesino Community on June 5, 2014 to discuss and demonstrate the effects of mining and climate change on watershed health and community development (33 people, 27 men, 6 women, 270 hours of training for men, 60 hours of training for women)

(2) ATREE led a youth training on improved cook stove construction and maintenance to convert polluting unhealthy stoves to safer ones that emit 40% less CO2 and soot (6 people, 4 men, 2 women, 480 hours of training, 320 hours of training for men, 160 hours of training for women)

(3) West Virginia University Training of enumerators in Malawi (24 people, 12 men, 12 women, 360 hours of training, 160 hours of training for men, 160 hours of training for women)

(4) Zamorano University provided training and technical assistance to community members in two communities of Santa Ines and Santa Rosa (39 people, 11 men, 28 women, 2,574hours of training, 418 hours of training for men, 2,156 hours of training for women)

(5) IRI (Tony Barnston and Igor Khomyakov) provided training on the IRI Data Library Software and Climate Predictability Tool to staff of the Kazakhstan Hydromet Office (20 people, 12 men, 8 women, 800 hours of training, 480 hours of training for men, 320 hours of training for women)

(6) The Western Indian Ocean (WIO) Marine Protected Area (MPA) General Training II – Vulnerability Assessment, Scenario Planning, and Analyzing Adaptation Strategies (31 people, 24 men, 7 women, 992 hours of training, 768 hours of training for men, 224 hour of training for women)

(7) The Western Indian Ocean (WIO) Marine Protected Area (MPA) Mentor Training II – Vulnerability Assessment, Scenario Planning, and Analyzing Adaptation Strategies (11 people, 8 men, 3 women, 158 hours of training, 128 hours of training for men, 30 hours of training for women)

(8) AgMIP researchers from CSSR held a training titled 'Advancing Global Agricultural Assessments: Building the Next-Generation Global Gridded Biophysical Model System - A Workshop to improve the use of soil data in large-scale multi-model tools for climate impact assessments in Africa' (20 people, 15 men, 5 women, 480 hours of training, 360 hours of training for men, 120 hours of training for women)

(9) CRIS training on tools for use in vulnerability analysis (sensitivity and risk prioritization matrices), adaptation planning and evaluation of adaptation options to Santo Domingo working group (13 people, 7 men, 6 women, 52 hours of training, 28 hours of training for men, 24 hours of training for women)

(10) CRIS Training-of-Trainers and Awareness Building Workshop in Nacala-Porto, Mozambique (52 people, 47 men, 5 women, 568 hours of training, 506 hours of training for men, 62 hours of training for women)

(11) CRIS workshop on climate change adaptation in Piura, Peru (50 people, 32 men, 18 women, 200 hours of training, 128 hours of training for men, 72 hours of training total for women)

(12) CRIS 3-hour training session on the Vulnerability Assessment Screening Tool in Trujillo, Peru (9 people, 4 men, 5 women, 27 hours of training, 15 hours of training for men, 12 hours of training for women).

(13) CRIS one-day workshop on Fast Track Implementation in Trujillo, Peru (18 people, 12 men, 6 women, 144 hours of training, 96 hours of training for men, 48 hours of training for women)

(14) Under a Round 1 CRIS small grant, IDDI conducted eight community training workshops in the National District (205 people, 102 men, 103 women, 817 hours of training, 412.5 hours of training for men, 404.5 hours of training for women)

Indicator #3: Number of laws, policies, strategies, plans, agreements, or regulations addressing climate change officially proposed, adopted, or implemented as a result of USG assistance

Data is forthcoming

Indicator #4: Amount of investment leveraged in U.S. dollars from private and public sources, for climate change as a result of USG assistance

CCRD benefitted from the financial contributions of numerous public and private organizations. Not all organizations providing leverage have been forthcoming in sharing cost information. In those instances,

an estimate of the value of leverage is provided based on CCRD's experience in convening similar events such as international conferences and workshops.

State University of New York (**$30,000**)

(1) In-kind donation of time and professional technical expertise on climate change issues

National Oceanic and Atmospheric Administration (**$12,000**)

(1) Support for the CSP Ethics Working Group

Indicator #5: Number of institutions with improved capacity to address climate change issues as a result of USG assistance. Measuring improved institutional capacity requires an initial baseline assessment of the targeted capacity(ies) and a post-intervention assessment. Due to the need for post-intervention assessment and follow-up, some interventions are not reported until a later reporting period.

Support for indicator #5 resulted from four workshops/trainings:

(1) State University of New York (SUNY) transitioning data and field results from Western Mongolia to WWF-Mongolia (one institution)

(2) West Virginia University supporting the University of Malawi in training and data collection efforts (one institution)

(3) IRI (Tony Barnston and Igor Khomyakov) training on the IRI Data Library Software and Climate Predictability Tool to staff of the Kazakhstan Hydromet Office (one institution)

(4) AgMIP researchers from CSSR held a training titled 'Advancing Global Agricultural Assessments: Building the Next-Generation Global Gridded Biophysical Model System - A Workshop to improve the use of soil data in large-scale multi-model tools for climate impact assessments in Africa' (seven institutions)

(5) The Caribbean Regional Climate Outlook Forum (CariCOF) in Kingston, Jamaica (three institutions)

Indicator #6: Number of days of USG funded technical assistance (TA) in climate change provided to counterparts or stakeholders. Includes the transfer of knowledge and/or expertise by way of staff, skills training, research work and financing to support quality of program implementation and impact, support administration, management, representation, publicity, policy development and capacity building. Generally, workshops/meetings that are not counted under Indicator #2 (climate change training) are included here.

(1) Twenty days of TA from 2 State University of New York (SUNY) Environmental School of Forestry experts in the field collecting and finalizing field research and data

(2) Forty five days of TA for field work and research from representatives of the University of Colorado, Boulder in Tanzania. Experts attended national-level planning meetings, held meetings with government agencies, and conducted semi-structured interviews and focus groups.

(3) Two days of TA from Yayasan Kota Kita for the City of Manado Climate Change Vulnerability Assessment Dissemination Workshop

(4) Six days total from Steve Zebiak, Cathy Vaughan, and Walter Baethgen at a two-day stakeholder workshop with stakeholders in the water, disaster management, health, and agriculture sectors of Jamaica to determine local capacities, needs, vulnerabilities, and opportunities to build networks.

(5) Three days of TA for the implementation of CRIS work plan activities in Nacala-Porto, Mozambique pilot

(6) One and a half days of TA for working meetings to discuss the Climate Information Database, Action Planning, and the formation of a Technical Group to support the municipality in Piura, Peru

(7) Half-day of TA for One long-distance peer learning event between municipal officials from Piura and Trujillo to follow up on the outcomes of the Climate Leadership Workshop held in Santo Domingo

Indicator #7: Number of climate adaptation tools, technologies and methodologies developed, tested, and/or adopted as a result of USG assistance

(1) State University of New York (SUNY) developed four new methodologies including **:** (1) an approach to integrating remote sensing data with stakeholder assessments and wildlife survey data to project likely future conditions for biodiversity and humans in rangeland situations, (2) a new approach to detecting trend in remote-sensed rangeland conditions with highly seasonal patterns of variability, (3) an approach for integrating traditional ecological knowledge with rangeland assessments based on western science methods, (4) field-based approach for detailed validation of satellite-derived estimates of ground-level estimates of rangeland quality

(2) RMIT University developed a fully functional interactive decision-support toolkit incorporating specific tools matrices to identify past impacts, current impact, possible future impacts and the concrete deterioration model for port systems

(3) Under a Round 1 CRIS small grant, TERI developed a detailed inventory of sector-specific infrastructure data for the project cities. The entire inventory is developed into an Access-based Data Base Management System (DBMS).

(4) CRIS approach for identifying, evaluating, and prioritizing adaptation options tested in Piura, Peru using a method consistent with the CRD Framework and tailored to the local development and decision-making context.

(5) One Vulnerability Assessment Screening Tool tested in Trujillo, Peru. Testing the tool in Trujillo built on previous results and feedback from tests in Piura to obtain more information on the advantages of the tool and areas for clarification and improvement.

Indicator #8: Number of climate vulnerability assessments conducted

(1) West Virginia University climate vulnerability assessment for Mzuzu, Malawi

(2) CATIE vulnerability assessment of the impact of climate change on land suitability for seven species used in silvopastoral systems in Central America

(3) Vulnerability assessments were conducted on five planned infrastructure projects and operations in the Piura pilot city.

(4) One vulnerability assessment was conducted for the city of Manado by Yayasan Kota Kita under Round 1 of the CRIS small grant program.

(5) Under the Piura CRIS pilot, the Municipality of Piura conducted additional vulnerability assessments of 42 individual planned infrastructure projects using the Vulnerability Assessment Screening Tool. This information was used in a workshop to identify, evaluate, and prioritize adaptation options for projects demonstrating a high level of vulnerability.

Indicator #9: Number of people registering to participate in adaptation-related communities of practice

The Climate Services Partnership established 7 new contacts. For a list of contact names and emails please refer to Cathy Vaughan at IRI cvaughan@iri.columbia.edu.

Indicator #10: Number of unique visitors logging on to/accessing the adaptation-related websites supported with USG assistance

CCRD monitors visits to the Adaptation Partnership, Climate Services, and High Mountain websites. This is reported on a semi-annual basis and will be reported for Q3 and Q4 in the upcoming Annual Repor.

Indicator #11: Number of adaptation financing proposals benefitting from USG assistance

Data is forthcoming.

CCRD Performance Indicators and Achievements

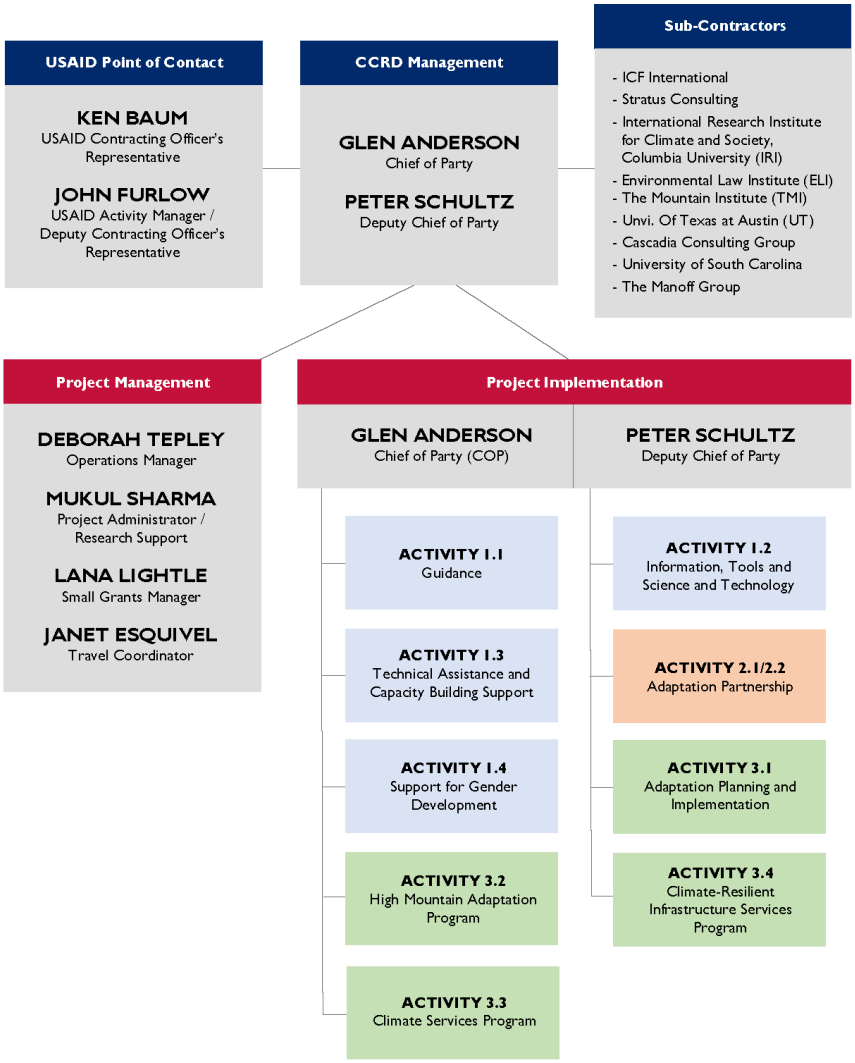
#	Indicator	Unit	FY 2012 Actuals	FY 2013 Actuals	Achievement – FY 2014						CCRD Cumulative FY 2012 – FY 2014
					FY 2014 Targets	QTR 1	QTR 2	QTR 3	QTR 4	FY 2014 Total	
1	Number of stakeholders with increased capacity to adapt to the impacts of climate variability and change as a result of USG assistance (mandatory for Adaptation funding) **MEN**	Number	48	4	70	0	35	**13**		48	**100**
	Number of stakeholders with increased capacity to adapt to the impacts of climate variability and change as a result of USG assistance (mandatory for Adaptation funding) **WOMEN**	Number	9	0	30	3	17	**4**		24	**33**
2	Number of people receiving training in climate change supported by USG assistance (Person-hours of training completed in climate change supported by USG assistance) **MEN**	Number/ Hours	376/ 7,913	1,665/ 36,585.50	600/ 10,000	626/ 8,600	267/ 1,716	**317/ 4,090**		1,210/ 14,406	**3,251/ 58,904.50**

#	Indicator	Unit	FY 2012 Actuals	FY 2013 Actuals	Achievement – FY 2014						CCRD Cumulative FY 2012 – FY 2014
					FY 2014 Targets	QTR 1	QTR 2	QTR 3	QTR 4	FY 2014 Total	
	Number of people receiving training in climate change supported by USG assistance (Person-hours of training completed in climate change supported by USG assistance) **WOMEN**	Number/ Hours	148/ 2,736	890/ 21,311	200/ 5,000	471/ 6,029	176/ 914	**214/ 3,853**		861/ 10,796	**1,899/ 34,843**
3	Number of laws, policies, strategies, plans, agreements, or regulations addressing climate change officially proposed, adopted, or implemented as a result of USG assistance	Number		11	12	0	4	**0**		4	**15**
4	Amount of investment leveraged in US dollars from private and public sources, for climate change as a result of USG assistance	Dollars	$440,000	$804,425	$600,000	$108,238	$14,150	**$42,000**		$164,388	**$1,408,813**
5	Number of institutions with improved capacity to address climate change issues as a result of USG assistance	Number	272	386	20	52	28	**13**		93	**751**

#	Indicator	Unit	FY 2012 Actuals	FY 2013 Actuals	Achievement – FY 2014						CCRD Cumulative FY 2012 – FY 2014
					FY 2014 Targets	QTR 1	QTR 2	QTR 3	QTR 4	FY 2014 Total	
6	Number of days of USG-funded technical assistance in climate change provided to counterparts or stakeholders	Days	171	141.50	160	46	96	**78**		220	**532.50**
7	Number of climate adaptation tools, technologies and methodologies developed, tested, and/or adopted as a result of USG assistance	Number	6	19	20	19	15	**5**		39	**64**
8	Number of climate vulnerability assessments conducted	Number	5	1	N/A	0	3	**5**		8	**14**
9	Number of people registering to participate in adaptation-related Communities of Practice	Number	80	349	N/A	391	7	**7**		405	**834**
10	Number of people logging on to/ accessing the adaptation-related websites supported with USG assistance	Number	7,687	9,908	N/A	9,627	**6,080**	**N/A**		15,707	**33,302**
11	Number of adaptation financing proposals benefitting from USG assistance	Number		**3**	N/A	0	0	**0**		0	**3**

ANNEX II. ORG CHART

Exhibit 2. Organization Chart



PROJECT MANAGMENT ---------- GLEN ANDERSON

WORK PLAN ---------- G. ANDERSON / KEN BAUM
PMP ---------- G. ANDERSON / K. BAUM
STRATEGIC PLANNING/SAC ---------- G. ANDERSON / JOHN FURLOW
REPORTING ---------- DEBORAH TEPLEY / K.BAUM
COMMUNICATIONS, OUTREACH AND COMMUNITIES OF PRACTICE ---------- MICHAEL COTE / JENNY FRANKEL-REED
POC FOR SUBCONTRACTOR/CONSULTANTS ---------- D. TEPLEY / K.BAUM
SMALL GRANTS ---------- LANA LIGHTLE / K.BAUM

PROJECT IMPLEMENTATION ---------- GLEN ANDERSON / PETER SCHULTZ

1.1 ACTIVITY: GUIDANCE ---------- G. ANDERSON / J. FRANKEL-REED
1.1 GUIDANCE, BRIEFS AND ANNEXES ---------- YOON KIM / J. FRANKEL-REED
CLIMATE RESILIENT DEVELOPMENT FRAMEWORK ---------- Y. KIM / J. FRANKEL-REED & JONATHAN COOK
DIAGNOSIS ANNEX ---------- P. SCHULTZ / J. FRANKEL-REED & J. COOK
COASTAL AND MARINE ANNEX ---------- JASON VOGEL / J. COOK
DIFFERENTIATED VULNERABILITY ANNEX ---------- ED CARR / ANDRE MERSHON
GOVERNANCE ANNEX ---------- JESSICAL TROELL / J. COOK
CLIMATE INFORMATION GUIDE ---------- P. SCHULTZ / J. FRANKEL-REED
NEW DIRECTIONS IN PILOTS AND RESEARCH ---------- P. SCHULTZ / J. FURLOW

1.2 ACTIVITY: INFORMATION, TOOLS AND SCI AND TECH ---------- P. SCHULTZ / J. FRANKEL-REED
UNDP ADAPTATION LEARNING MECHANISM WEBSITE ---------- M. COTE / J. FRANKEL-REED

1.3 ACTIVITY: PROVIDE CAPACITY BUILDING SUPPORT ON MAINSTREAMING ---------- G. ANDERSON
SUPPORT DEVELOPMENT OF USAID'S FEDERAL AGENCY CLIMATE CHANGE PLAN ---------- MICHELLE COLLEY / NORA FERM
SUPPORT FOR USAID INTEGRATION PILOT IN KAZAKHSTAN ---------- G. ANDERSON / J. FRANKEL-REED
SUPPORT FOR CLIMATE RESILIENT LOW EMISSIONS DEVELOPMENT STRATEGIES ---------- CHARLOTTE MACK / J. FURLOW

1.4 SUPPORT FOR GENDER DEVELOPMENT
TECHNICAL ASSISTANCE TO THE OFFICE OF GENDER EQUALITY AND WOMEN'S EMPOWERMENT ------ E. CARR / A. MERSHON

2.1/2.2 ACTIVITY: ADAPTATION PARTNERSHIP ---------- P. SCHULTZ
2.1 ADAPTATION PARTNERSHIP ---------- ROSAMUND MISCHE JOHN
CONDUCT URBAN ADAPTATION PARTNERSHIP WORKSHOP ---------- C. MACK / N. FERM
CONDUCT CLIMATE AND SECURITY ADAPTATION PARTNERSHIP WORKSHOP ---------- MUKUL SHARMA / J. FURLOW
CONDUCT TRANING ON MAINSTREAMING FOR MARINE PROTECTED AREA MANAGERS ---------- Y. KIM / J. COOK

3.1 ACTIVITY: SUPPORT ADAPTATION PLANNING AND IMPLEMENTATION ---------- P. SCHULTZ
SUPPORT PREPARATION OF NATIONAL ADAPTATION PLANS (NAPS) ---------- Y. KIM
DEVELOP AND PILOT FAST TRACK IMPLEMENTATION CONCEPT ---------- P. SCHULTZ

3.2 ACTIVITY: HIGH MOUNTAIN ADAPTATION PROGRAM ---------- G. ANDERSON
3.2 HIGH MOUNTAIN AND ADAPTATION PROGRAM ---------- M. COTE
DEVELOP THE HIGH MOUNTAIN ADAPTATION PROGRAM CoP SECRETARIAT ---------- JOHN HARLIN
IMPLEMENT COMMUNITY OF PRACTICE PILOT PROJECTS AND RESEARCH ---------- TMI / UT

3.3 ACTIVITY: CLIMATE SERVICES PARTNERSHIP ---------- G. ANDERSON
3.3 CLIMATE SERVICES ---------- FERNANDA ZERMOGLIO
COORDINATE ACTIVITIES OF THE CLIMATE SERVICES PARTNERSHIP ---------- STEVE ZEBIAK
COMPILE AND DISSEMINATE CURRENT CLIMATE SERVICES KNOWLEDGE ---------- IRI STAFF
CONDUCT CASE STUDIES AND ASSESSMENTS OF CLIMATE SERVICES ---------- IRI STAFF
ECONOMIC VALUATION OF CLIMATE SERVICES ---------- G. ANDERSON
PILOT NATIONAL-LEVEL CLIMATE SERVICES ANALYSIS ---------- S. ZEBIAK/IRI
DEVELOP CLIMATE SERVICES PRODUCT FOR AGRICULTURAL SECTOR ---------- IRI STAFF
CLIMATE SERVICES TECHNICAL BACKSTOPPING OF DEVELOPMENT PROGRAM ---------- S. ZEBIAK/IRI
INTERNATIONAL RESEARCH AND APPLICATIONS PROJECT ---------- LISA GODDARD/IRI

3.4 ACTIVITY: CLIMATE RESILIENT INFRASTRUCTURE SERVICES PROGRAM (CRIS) ---------- P. SCHULTZ
PROVIDE CRIS SUPPORT TO PILOT CITIES TO ACCELERATE CLIMATE RISK MANANGMENT ---------- J. POTTER
DESIGN AND IMPLEMENT A SMALL GRANTS PROGRAM ---------- CHRIS EVANS / L. LIGHTLE
FACILITATE GLOBAL CITY-TO-CITY INFORMATION ---------- J. POTTER/ WENDY JAGLOM
PROVIDE INFORMATION AND TECHNICAL RESOURCES TO USAID STAFF ---------- J. POTTER
EVALUATE CRIS ACTIVITIES AND RECOMMEND NEXT STEPS ---------- J. POTTER

J. FURLOW
J.COOK
J. COOK
J. FURLOW
N. FERM

ANNEX III. SMALL GRANTS

Name-Number	Title	Type	Amount
Adam French (University of California, Santa Cruz): CCRDCS0001	Integrated and Participatory Risk Management in Peru's Lake Paron Glacier Basin	Climber-Scientist Small Grants (Individual Grant)	$24,818
Ulyana Nadia Horodyskyj (University of Colorado (UC) at Boulder): CCRDCS0002	Quantifying Supraglacial Lake Changes: Contributions to Glacial Ice Volume Loss and Runoff Inputs to Rivers in Nepal and Tibet	Climber-Scientist Small Grants (Individual Grant)	$31,527
Laura Read (Tufts University): CCRDCS0004	Tres Cuencas Commonwealth	Climber-Scientist Small Grants (Individual Grant)	$25,962
Raúl Augusto Loayza Muro (Universidad Peruana Cayetano Herida): CCRDCS0005	Natural acid and metal leaching in Andean headwaters: an interdisciplinary approach to evaluate water quality and potential sources for remediation in a climate change context in the Cordillera Blanca (Peru)	Climber-Scientist Small Grants (Individual Grant)	$24,997.60
ATREE (India-Nepal): CCRDCS0006	Climate change in Kanchenjunga TCA: Vulnerabilities and adaptive capacities	Climber-Scientist Small Grants (Institutional Grant)	$93,700

Name-Number	Title	Type	Amount
The Research Foundation for the State University of New York (SUNY) (Mongolia-Altai): CCRDCS0007	Engaging Climber-Scientists and Indigenous Herders on Grazing and Climate Change Issues in the Altai Mountain Region of Mongolia	Climber-Scientist Small Grants (Institutional Grant)	$99,655
Resources Himalaya Foundation (Nepal): CCRDCS0008	Building Climate Change Resilience Capacity of Mountain People in Nepal	Climber-Scientist Small Grants (Institutional Grant)	$97,823.53
Geo-Science Innovations (Nepal): CCRDCS0009	Investigation of the Seti River disaster (May 5, 2012) and assessment of past and future mountain hazards facing Pokhara, Nepal and upstream communities	Climber-Scientist Small Grants (Institutional Grant)	$100,000
Institute of Environmental Engineering (Eidgenössische Technische Hochschule ETH), Zurich, Switzerland: CCRDCS0010	Including the Sherpa Factor in Water Resources Projections in the Nepalese Himalaya	Climber-Scientist Small Grants (Institutional Grant)	$99,590
Stephanie Spray (Harvard University): CCRDCS0011	Snow River Film Project	Climber-Scientist Small Grants (Individual Grant)	$28,610

Name-Number	Title	Type	Amount
Private Institute for Climate Change Research (ICC); part of the Guatemalan Sugar Association (Asociación de Azucareros de Guatemala - ASAZGUA) CCRDCR0001	Develop a mechanism for Climate Change Technology Transfer for staple crops within the Guatemalan Pacific slopes.	Costa Rica Small Grants (Institutional Grant)	$127,511.29
Tropical Agricultural Research and Higher Education Center (CATIE) CCRDCR0002	Strengthening the resilience of cattle farms to climate variability and climate change in Honduras, Nicaragua and Costa Rica	Costa Rica Small Grants (Institutional Grant)	$171,570.83
Pan American School of Agriculture, also known as Zamorano (university) CCRDCR0003	Building capacity for climate-resilient agriculture in the dry corridor of northern central America	Costa Rica Small Grants (Institutional Grant)	$159,362.50
International Environmental Data Rescue Organization	West Africa Data Rescue and Digitization Facility	Sole Source Small Grants (Institutional Grants)	$122,221.75

Name-Number	Title	Type	Amount
(IEDRO): CCRDSS0001			
AGRHYMET Regional Center: CCRDSS0002	Improving Resilience to Climate Impacts in West Africa Through Improved Availability, Access and Use of Climate Information: Dialogue With User	Sole Source Small Grants (Institutional Grants)	$29,978.00
Western Indian Ocean Marine Science Association (WIOMSA): CCRDSS0003	Training on Vulnerability Assessment, Scenario Planning and analyzing adaptation strategies - 2014 WIO Climate Capacity Building Program	Sole Source Small Grants (Institutional Grants)	$98,712.00
The Mountain Institute (TMI): CCRDSS0004	The Everest Alliance-Cooperatively protecting and restoring the Mt. Everest ecosystem from villages to summit	Sole Source Small Grants (Institutional Grants)	$18,065.65
Trustees of Columbia University in the City of New York: CCRDSS0005	Training on Vulnerability Assessment, Scenario Planning and analyzing adaptation strategies - 2014 WIO Climate Capacity Building Program	Sole Source Small Grants	$49,348.00
The Energy and Resources Institute (TERI): CCRDCRIS0001	Urban Infrastructure Inventory and Rapid Vulnerability Assessment for Resilience Planning in Two Coastal Cities in India	The Climate Resilient Infrastructure Services (CRIS) Program (Institutional Grant)	$149,358
Yayasan Kota Kita Surakarta: CCRDCRIS0002	Vulnerability Assessment, Infrastructure Inventory, Resilience Planning and Capacity Building for the City of Manado, Indonesia	The Climate Resilient Infrastructure Services (CRIS) Program (Institutional Grant)	$108,874
Instituto	Increasing Resilience to Climate Change of Santo	The Climate Resilient	$146,673.98

Name-Number	Title	Type	Amount
Dominicano de Desarrollo Integral (IDDI): CCRDCRIS0005	Domingo's Services Infrastructure	Infrastructure Services (CRIS) Program (Institutional Grant)	
Western Kentucky University: CCRDACD0002	Tropical Andean Climate Change Adaptation and Ecosystem Services Monitoring, Cordillera Blanca, Peru	Academic Grants (Institutional Grant)	$100,000
University of Colorado: CCRDACD0008	An online planning tool for climate change resiliency development support	Academic Grants (Institutional Grant)	$99,410
RMIT University, Australia: CCRDACD0005	Decision-support toolkit: towards climate smart seaports in the Pacific Islands	Academic Grants (Institutional Grant)	$99,828
West Virginia University: CCRDACD0004	Climate Forecasting, Adaptation Backcasting: Promoting Resilient Adaptation in Malawi	Academic Grants (Institutional Grant)	$99,826
University of Michigan - School of Natural Resources and Environment: CCRDACD0007	Water Demand Management for Improved Adaptation by Small Farmers in Semi-Arid India	Academic Grants (Institutional Grant)	$99,941
Red Cross / Red Crescent Climate Centre: CCRDACD0003	From Vulnerability Assessments to Adaptive Action: A demand-driven approach to forecast-based decisions for development	Academic Grants (Institutional Grant)	$99,829
University of	Diagnosing the vulnerability of drinking water	Academic Grants	$99,995

Name-Number	Title	Type	Amount
North Carolina at Chapel Hill: CCRDACD0006	infrastructure to synergistic climate related hazards in coastal cities	(Institutional Grant)	
Pan American School of Agriculture "El Zamorano": CCRDACD0009	Water, Climate and Development Training program	Academic Grants (Institutional Grant)	$90,525
University of Colorado Boulder: CCRDACD0001	Identifying Constraints to and Opportunities for Co-production of Climate Information for Improved Food Security among Agro-pastoral Populations in Tanzania	Academic Grants (Institutional Grant)	$50,625
Nepal Development Research Institute (NDRI)-CCRDSCS0001	Strengthening Generation and Dissemination of Climate-Based Agro-Advisories for Smallholder Farmers in South Asia	Climate Services Grants (Institutional Grant)	$149,585
Science Foundation for Livelihoods and Development (SCIFODE)-CCRDSCS0002	Laying the Foundation for Establishing Networks Linking Farmers Across Africa and South Asia for Demand-driven Climate Services	Climate Services Grants (Institutional Grant)	$149,990
University of Reading - CCRDSCS0003	Investigating the potential and opportunities for scaling up climate services for farmers in Africa	Climate Services Grants (Institutional Grant)	$149,939

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